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Testimony for Public Health Committee Bill #5747

My name is Eva Sapi. I am an Assistant Professor at the University of New Haven where I teach molecular biology for graduate students and have done Lyme research for the last three years. My research interest in Lyme started 5 years ago when I contracted Lyme disease. Since my blood tested negative for Lyme disease, my treatment was delayed for months and my health greatly deteriorated. I am a cancer researcher by training, but when I was struggling with this disease I realized that Lyme patients are in a far worse situation than cancer patients, because nobody believes them. Reading the literature about this disease, I was shocked at how many important questions were not got answered for this disease. For example, what kind of pathogens are in the ticks and what kind of coinfection can we receive when we get a tick bite? There have been no comprehensive studies preformed in Connecticut to date to investigate the different types of tick-borne pathogens and their frequency rate. Therefore, my graduate students and I started to collect ticks in Southern CT. We first tested the ticks for the usual suspects such as Borrelia, Babesia, Bartonella and Anaplasma. Our results confirmed findings in similar studies and showed very high coinfection rate.

Results revealed that 57% of the 230 deer ticks were infected. 22% were multiply infected. 5% of ticks were triply infected, and 0.4% was infected with all four pathogens. The most prevalent pathogen in single infections was Babesia, found in 34% of all ticks and 69% of all coinfections. Bartonella was present in 30% of the tick population and 82% of ticks multiply infected. 20% of ticks were positive for Borreliai, 68% of which were multiply infected. Anaplasma was present in 3% of ticks, 88% of which were coinfected. Duel infections containing Bartonella and Babesia were found in 7% of ticks as well as all triple infections. Duel infections of Borrelia i and Bartonella were detected in 7% of ticks. These results provide substantial evidence that coinfections are present in deer ticks in southern Connecticut and diagnosis of tick-borne diseases should include testing for those multiple pathogens.

Furthermore, one of our latest studies showed the presence of mycoplasma in ticks at a very significant rate. An even more surprising finding demonstrated that certain parasites can also be found in the ticks.

Our results strongly suggest that multiple coinfections (known and unknown) can be found within ticks with the potential to simultaneously transmit these pathogens to humans. We need more research to be able to identify the type of transmissible infections in ticks to reduce misdiagnosis and inappropriate therapeutic treatments of tick-borne diseases.

To able to support these research efforts and able to get federal funding we need to accurately report the cases here in CT so the State can recognize the severity of this disease. Therefore, I urge you to support this new bill (Bill #5747) "to mandate that clinical laboratories notify the Department of Public Health of all cases of positive Lyme Disease results".

Thank you